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| 10/699,130      | 10/31/2003  | Lauren A. Groth      | 130290-01           | 2699             |

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BUTZEL LONG  
350 SOUTH MAIN STREET  
SUITE 300  
ANN ARBOR, MI 48104

EXAMINER

ORTIZ, ANGELA Y

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
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1732

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/699,130

Applicant(s)

GROTH, LAUREN A.

Examiner

Angela Ortiz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/31/03</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-20, drawn to a method of protecting electrical assemblies and a method of fabricating molded forms, classified in class 264, subclass 272.11 and 219.
- II. Claim 21, drawn to molded form, classified in class 428.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such as one that does not require the step of providing a printed circuit board.

Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

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During a telephone conversation with rep. M. Gzybowski on February 28, 2006 a provisional election was made with oral traverse to prosecute the invention of group I, claims 1-20. Affirmation of this election must be made by applicant in replying to this Office action. Claim 21 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palmer, USP 4,701,999.

The cited reference substantially teaches the basic claimed method of protecting an electrical assembly comprising providing pre-molded forms, and securing the assembly between the forms to protect from damage caused by the environment. The detailed method steps include providing an integrated circuit chip attached to a lead frame, wherein the device may be preassembled prior to molding (see col. 5, lines 20-25), and providing a solid bottom wall insert 48 and a solid top wall cap 50. Both the bottom wall insert 48 and top wall cap 50 may be preformed prior to assembly by any conventional molding technique, including injection molding. The method is carried out by associating each insert and cap with the electrical assembly, and forming a sealed

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housing around the assembly. The method may further comprise the molding of a plastic rim for securely locating the cap and insert onto the assembly. See col. 6, lines 45-60; col. 7, lines 12-30, 34-65; col. 10, lines 5-25.

The cited reference does not set forth a printed circuit board as claimed.

Note that the lead frame set forth in the applied prior art reference is an alternative equivalent form of a board, as both are substrates for receiving the electrical components (or chips), and it would have been obvious to one of ordinary skill in the art at the time the invention was made to use printed circuit boards for making a similar assembly.

With respect to claims 2-3, note that both insert 48 and cap 50 are injection molded by any conventional technique, and may include a molded rim formed of a material different from the insert material.

With respect to claim 4, note that the inserts include recesses 50b; see col. 7, line 30.

With respect to claim 5, the use of hinges is conventional in the molding art, and would have been obvious to one of ordinary skill in the art at the time the invention was made for making an assembly with one part moving relative to another.

With respect to claim 8, note that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

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No further structure is given in this claim to further limit the structure set forth in claim 1, thus the reference remains as previously applied.

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palmer, USP 4,701,999 in view of Harding, USP 4,829,403.

The cited primary reference substantially teaches the basic claimed method of protecting an electrical assembly comprising providing pre-molded forms, and securing the assembly between the forms to protect from damage caused by the environment. The detailed method steps include providing an integrated circuit chip attached to a lead frame, wherein the device may be preassembled prior to molding (see col. 5, lines 20-25), and providing a solid bottom wall insert 48 and a solid top wall cap 50. Both the bottom wall insert 48 and top wall cap 50 may be preformed prior to assembly by any conventional molding technique, including injection molding. The method is carried out by associating each insert and cap with the electrical assembly, and forming a sealed housing around the assembly. The method may further comprise the molding of a plastic rim for securely locating the cap and insert onto the assembly. See col. 6, lines 45-60; col. 7, lines 12-30, 34-65; col. 10, lines 5-25.

The cited primary reference does not set forth a printed circuit board as claimed, or an embedded structure within the molded forms.

The added secondary reference teaches as conventional a similar electrical package, wherein the molded caps include an embedded thermal conductor 20, 30. The conductors may be coated and over-molded with a plastic material, and then

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sealed together to form a covered electrical assembly. See col. 4, lines 5-50; col. 5, lines 40-68.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an embedded structure as shown in the added reference, when performing the process set forth in the primary reference, for molding a cap with a thermal conductor.

Claims 9, 10, 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hogan et al., USP 5,543,103.

The cited reference substantially teaches the basic claimed method of accurately shaping the surface of a mold with a three-dimensional image as claimed. The detailed method steps include electronically scanning the object to be replicated, adjusting the three-dimensional image captured and projecting the image onto the surface of a mold. During the capture of the image, a two-dimensional copy is provided and adjusted accordingly. Using the corrected image, the image is displayed onto a mold that is milled and routed for accurately corresponding to the image, using a program and automated machines. The mold can then be used to mold any moldable material into the three-dimensional image formed. See col. 2, lines 55-68; col. 3, lines 1-40.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide and modify an electronic image, and form a mold using that image for reproducing molded three-dimensional articles having the image shape.

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Note that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

To co-mold the articles produced using the mold, or to embed structures within the articles as claimed, is deemed conventional in the molding art and would have been obvious to so include as such is well within the choice of the practitioner for forming equivalent alternative structures.

#### ***Allowable Subject Matter***

Claims 11-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note that More et al., USP 4891734 (of record) shows down-hole applications; USP's 5106785; 5376824; 5685506; 6444148; 6641767.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela Ortiz whose telephone number is 571-272-1206. The examiner can normally be reached on Monday-Thursday 9:00-6:30.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on 571-272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Angela Ortiz  
Primary Examiner  
Art Unit 1732

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